IN THE CLAIMS:

The following is a complete listing of the pending claims:

1. (currently amended) An optical disk read/write drive apparatus comprising:

an optical arm moveable with respect to optical media position in said drive; and an optical head coupled to said optical arm, said optical head including at least a light source and an objective wherein said light source and said objective are maintained in a substantially fixed spatial relationship during at least first movement of said optical art, and wherein the light source comprises at least one of a edge-emitting laser diode and a VCSEL.

2. (original) Apparatus, as claimed in Claim 1, wherein said first movement is tracking movement.

3. (original) Apparatus, as claimed in Claim 1, wherein said first movement is focusing movement.

Claims 4 through 7. (cancelled)

8. (currently amended) A method for assembling components of an optical disk read/write drive, said drive defining an optical media position, the method comprising:

mounting an optical arm so as to be moveable with respect to said optical media position in said drive; and

coupling an optical head to said optical arm, said optical head including at least a light source and an objective wherein said light source and said objective are maintained in a substantially fixed spatial relationship during at least first movement of said optical arm, and wherein the light source comprises at least one of an edge-emitting laser diode and a VCSEL.

Claims 9 through 12. (cancelled)

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13. (original) A method, as claimed in Claim 8, wherein said first movement is tracking movement.

14. (original) A method, as claimed in Claim 8, wherein said first movement is focusing movement.

15. (currently amended) An optical disk read/write drive comprising:

arm means for supporting optics, moveable with respect to an optical media position in said drive; and

optics means, coupled to said arm means, for providing light from a light output means to said optical media position wherein said light output means and said optic means are maintained in a substantially fixed spatial relationship during at least first movement of said arm means, and wherein said light output means comprises at least one of an edge-emitting laser diode and a VCSEL.

Claims 16 through 19. (cancelled)

20. (original) Apparatus, as claimed in Claim 15, wherein said first movement is tracking movement.

21. (original) Apparatus, as claimed in Claim 15, whereto said first movement is focusing movement.

22. (original) An optical head for use in an optical medium reader/writer, the optical medium defining a plane, comprising:

a first silicon wafer chip having electronic components formed thereon; a light source mounted in a fixed position with respect to said chip; at least a first mirror, in a fixed position with respect to said chip, and positioned, with respect to said light source so as to receive light

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output by said light source and reflect said light, changing its direction;

an optics-carrying component mounted in a fixed position with respect to said light source wherein optics, carried by said optics-carrying component, to receive and modify at least a portion of said light reflected from said mirror; and

an objective mounted in a fixed position with respect to said optics-carrying component for focusing light on said medium wherein light from said light source travels along an initial optical path wherein said light is reflected by said first mirror to said optics-carrying-component, and travels along a path, including a first path, to said objective and travels at least to said medium.

23. (original) An optical head, as claimed in claim 22, further comprising at least a first spacer mounted with respect to said chip.

24. (original) An optical head, as claimed in claim 23, wherein said first mirror is integrally formed as a part of said first spacer.

25. (original) Apparatus, as claimed in claim 22, wherein said light source comprises a laser.

26. (original) Apparatus, as claimed in claim 22, wherein said light source comprises an edge-emitting laser diode.

27. (original) Apparatus, as claimed in claim 22, wherein said light source comprises a VCSEL.

28. (original) Apparatus, as claimed in claim 22, wherein said light source comprises a fiber optic.

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29. (original) Apparatus, as claimed in claim 22, wherein said first path is substantially parallel to said plane defined by said medium.

30. (original) Apparatus, as claimed in claim 22 wherein said optics-carrying component comprises an optics die and an adjacent periscope block.

31. (original) Apparatus, as claimed in Claim 22, wherein the total vertical distance from said light source to the plane of said medium is less than about 5 mm

32. (original) Apparatus, as claimed in Claim 22, further comprising a photodetector mounted in a fixed position with respect to said chip.

33. (original) Apparatus as claimed in claim 32 wherein said photodetector is a segmented photodetector.

34. (original) Apparatus, as claimed in Claim 22, wherein said optics-carrying component carries at least a first optic for discriminating between emitted light and reflected light.

35. (original) Apparatus, as claimed in Claim 32, wherein said optics-carrying component comprises at least a first optic for receiving reflected light from said media along a second path and providing at least some reflected light to said photodetector.

36. (original) Apparatus, as claimed in Claim 35, wherein said second path is substantially parallel to a spin axis for said medium.

37. (original) Apparatus, as claimed in Claim 36, wherein said optics-carrying component comprises a periscope block, said periscope block having a first reflective surface for receiving light along said second path and reflecting said light along a third path, said third path being substantially parallel to the plane of said medium.

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38. (original) Apparatus, as claimed in Claim 37, wherein said periscope block further comprises at least a first means, positioned along said initial optical path, for reflecting at least

some light from said third path to a fourth path substantially parallel to a spin axis of said medium, and wherein said first means substantially discriminates light reflected from said medium.

39. (original) Apparatus, as claimed in claim 38, wherein said first means comprises a polarization beam splitter.

40. (original) Apparatus as claimed in claim 38, wherein said first means discriminates by substantially transmitting light reflected from said medium and substantially reflects at least some other light.

41. (original) Apparatus as claimed in claim 38, wherein said first means discriminates by substantially reflecting light reflected from said medium and substantially transmitting at least some other light.

42. (original) Apparatus, as claimed in Claim 38, further comprising at least a first quarter wave plate positioned, along said optical path, substantially between said polarization beam splitter and said objective.

43. (original) Apparatus, as claimed in Claim 27, wherein said first path is substantially perpendicular to a spin axis of said medium.

44. (original) Apparatus, as claimed in Claim 27, wherein said first path is substantially parallel to a spin axis of said medium.

45. (original) Apparatus, as claimed in Claim 27, wherein said optical path has a substantially finite conjugate configuration, in the absence of collimization along said optical path between said light source and said objective.

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46. (original) A method for use in an optical medium reader/writer, the optical medium defining a plane, comprising:

forming electronic components on a first silicon wafer chip;

mounting a light source in a fixed position with respect to said chip;

positioning at least a first mirror in a fixed position with respect to said chip and with respect to said light source so as to receive laser light output by said laser diode and reflect said light, changing its direction;

mounting an optics-carrying component in a fixed position with respect to said spacer wherein optics, carried by said optics-carrying component, receive and modify at least a portion of said light reflected from said mirror; and

mounting an objective in a fixed position with respect to said optics-carrying component for focusing light on said medium wherein an initial optical path is defined for said laser light, said initial optical path extending from said light source to said first mirror, to said optics-carrying-component, to said objective and at least to said medium, a portion of said initial optical path from said optics-carrying component to said objective including a first optical path.

47. A method, as claimed in Claim 46, further comprising mounting a photodetector in a fixed position with respect to said chip.

48. (original) A method, as claimed in Claim 46, wherein light is reflected from said medium and travels along a reflected light path, including at least a second light path substantially parallel to a spin axis of said medium, further comprising using said optics-carrying component for positioning at least a portion of said initial light path along a path different from said reflected light path.

49. (original) A method, as claimed in Claim 46, wherein said optics-carrying component

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comprises a periscope block, said periscope block having a first reflective surface for receiving light along said second path and reflecting said light along a third path, said third path being substantially parallel to the plane of said medium.

50. (original) A method, as claimed in Claim 49, further comprising positioning a polarization beam splitter with respect to said periscope block positioned along said optical path for reflecting light from said third path to a fourth path substantially parallel to a spin axis of said medium, and wherein said polarization beam splitter substantially transmits light reflected from said medium.

51. (original) A method, as claimed in Claim 50, further comprising positioning at least a first quarter wave plate along said initial optical path, substantially between said polarization beam splitter and said objective.

52. (original) An optical head apparatus for use in an optical medium reader/writer, the optical medium defining a plane, comprising:

a first substrate having electronic components positioned thereon; a light output means mounted in a fixed position with respect to said substrate; at least a first mirror means, in a fixed position with respect to said substrate, and positioned, with respect to said light output means so as to receive light output by said light output means and reflect said light, changing its direction;

optics-carrying means mounted in a fixed position with respect to said light output means wherein optics, carded by said optics-carrying means, receives and modifies at least a portion of said light reflected from said mirror means; and

objective means mounted in a fixed position with respect to said optics-carrying means for focusing light on said medium, wherein at least an initial optical path is defined for said light, said initial optical path extending from said light output means to said first mirror

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means, to said optics-carrying-means, to said objective means and at least to said medium.

53. (original) Apparatus, as claimed in claim 52, further comprising at least first spacer means mounted with respect to said substrate.

54. (original) Apparatus, as claimed in claim 52, wherein said optics-carrying means comprises said substrate.

55. (original) Apparatus, as claimed in Claim 52, further comprising a photodetector means mounted in a fixed position with respect to said substrate.

56. (original) Apparatus, as claimed in Claim 52, further comprising means for discriminating between emitted light and reflected light.

57. (original) Apparatus, as claimed in Claim 55, further comprising for receiving light reflected from said medium along a second path and providing at least some reflected light to said photodetector means.

58. (original) Apparatus, as claimed in Claim 52, further comprising means for receiving light along said second path and reflecting said light along a third path, said third path being substantially parallel to the plane of said medium.

59. (original) Apparatus, as claimed in Claim 52, further comprising means for reflecting light from said third path to a fourth path substantially parallel to a spin axis of said medium.

60. (original) Apparatus, as claimed in claim 52 wherein said substrate is selected from among the group consisting of a silicon wafer chip and a flexible circuit substrate.

61. (original) Apparatus, as claimed in claim 60 wherein said flexible circuit substrate comprises a polyimide.

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62. (original) Apparatus, as claimed in claim 52 wherein said light output means is selected from among the group consisting of an edge-emitting laser diode and a VCSEL.

63. (original) Apparatus, as claimed in claim 56 further comprising a flexible circuit board means and wherein circuitry on said substrate is coupled to circuitry on said flexible circuit board means.

64. (original) Apparatus, as claimed in claim 63, wherein said substrate has a major surface lying in a first plane and wherein a first portion of said flexible circuit board means is substantially parallel to said first plane and at least a second portion of said flexible circuit board means is not parallel to said first plane.

65. (original) Apparatus, as claimed in claim 63 wherein said substrate is at least partially positioned in a cutout region formed in said flexible circuit board means.

66. (original) Apparatus, as claimed in claim 63 wherein said flexible circuit board means includes at least a first thermally conductive coating in thermal communication with at least a portion of said substrate.

67. (original) A method for fabricating an optical head comprising:

forming a plurality of electronic circuits on a silicon wafer having at least a first surface defining a plane;

mounting a plurality of light sources on said silicon wafer, with at least a first light source positioned adjacent at least some of said electronics circuits;

positioning a plurality of spacer bars, each bar having a longitudinal axis, each bar defining a plurality of mirror surfaces with said mirror surfaces at about 45 o to said plane of said wafer surface;

cutting said wafer along a plurality of cut lines to provide a plurality of wafer chips, at

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least some of said wafer chips having a light source mounted thereon and a portion of at least one of said spacer bars mounted thereon, wherein at least some of said cut lines intersects at least some of said spacer bars;

providing power and control signals to said first light source wherein said first light source is caused to emit light; and

positioning at least a first optical component with respect to said light source of at least a first chip during a time when said light source on said chip is emitting light.

68. (original) A method as claimed in claim 67 wherein said first optical component is an optics-carrying component having a plurality of optics formed therein and wherein said step of positioning comprises moving said first optical component until said light is substantially centered on at least one of said optics.

69. (original) A method as claimed in claim 67 wherein said optical head includes at least one photodetector, and wherein said first optical component is a periscope block, defining a reflected light exit path and wherein said step of positioning comprises moving said first optical component until said exit path defines a predetermined relationship with said photodetector.

70. (original) A method as claimed in claim 67 wherein an objective is mounted on said first optical component during said step of positioning.

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